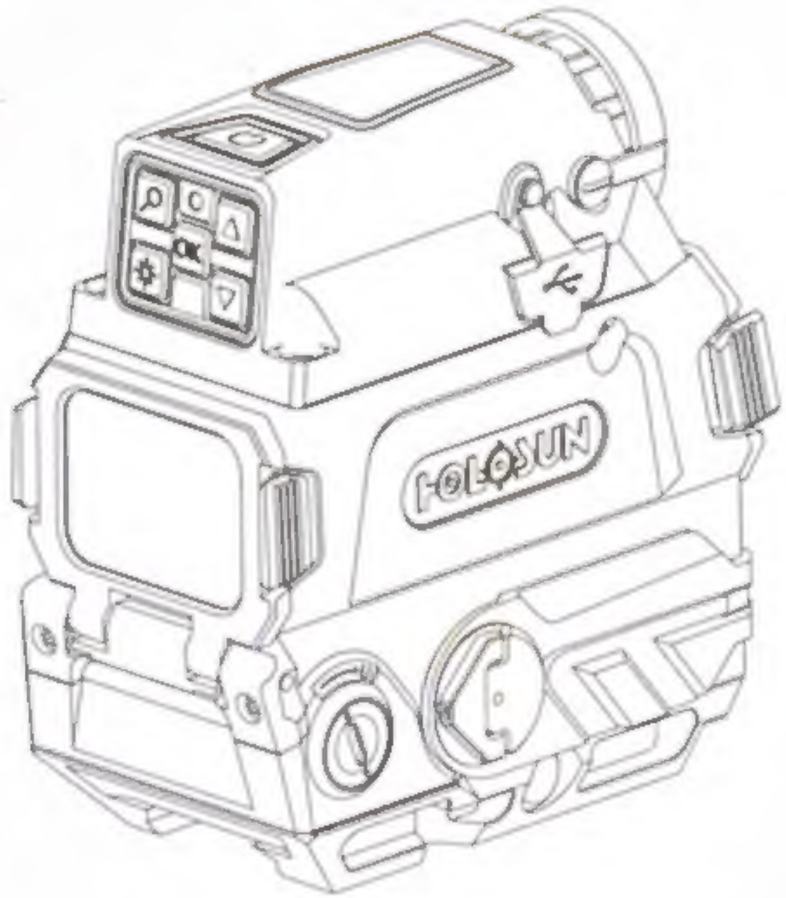
HOLOSUN®

DRS-TH



User's Manual

www.holosun.com

Table of Contents

Important Notices & Warnings

1. Ensure the firearm is unloaded and safe by removing all ammunition and magazines from the firearm and verify an empty chamber before installation and battery replacement. Do not attempt to install this sight kit on a loaded gun. Safe firearm handling rules should be followed at all times.
2. This product contains natural rubber latex which may cause a potentially fatal allergic reaction! If you are allergic to rubber, it is important to strictly avoid products containing
3. If the product has been stored for an extended period, please check its function
using it.
4. Do not attempt to disassemble this product. Disassembly by anyone other than
authorized repair center could cause damage and will void the warranty.
5. For best performance do not touch optical surfaces with bare hands.
always be kept clean.
6. Clean the lens surfaces using lens tissues or a clean microfiber cloth.
7. Condensation on optical surfaces can affect performance. Condensation
temperature or humidity changes as follows:
a. When moving the device from cold to warm environments or vice versa.
b. Environments with high humidity.
As the temperature of the device acclimates with the environmental temp

condensation disappears. Use a towel to wipe away any condensation before use.
8. Sand and sea water can damage the optical coatings!
9. Image performance is dependent on scenery and atmospheric conditions. Contrast in the same image may vary as a function of the time of day due to the effect of the sun. For example, at sunset objects will have absorbed different levels of heat, resulting in greater temperature differences and better contrast. Do not point the device directly at the sun.
10. Never point the device directly at the sun.
11. Infrared radiation does not travel through glass. As a result, the DRS-TH does not detect objects if they are behind glass windows or other barriers.
12. When left in storage for an extended period, batteries should be removed and stored in polyethylene bags to prevent contact with metal. (It is recommended to recharge the batteries every two to three months.)
13. When carrying or transporting the device, close the protective lens cap to avoid lens damage.
14. Carefully read this manual before use. Proper usage of this device is important for safe operation.
15. Please keep the packaging should you need to make a warranty claim.
Ensure proper eye relief is maintained when shooting larger calibers to avoid injury.
The user assumes all responsibility and liability for having DRS-TH properly mounted to a firearm and using the DRS-TH properly. Always check the condition of your mounting system prior to using your firearm.

LEGAL NOTICE: Before attaching the DRS-TH to a weapon, check firearms laws in your area. Adherence to firearms law is always the sole responsibility of the user.

Product Overview

1. Product Description

Thank you for purchasing the HOLOSUN DRS-TH thermal fusion sight. The DRS-TH is a sighting system that integrates a red dot sight with a thermal camera, combining Holosun's red dot aiming technology with thermal imaging capabilities. The DRS-TH can be used day and night with the thermal camera. The thermal sensor's spectral band provides improved visibility through smoke, dust, rain, smog, etc. and greatly improves the low-light and no-light performance of the traditional red dot sight. Before operation, please read the User's Manual carefully.

2. Introduction of DRS-TH Components (figure 1)

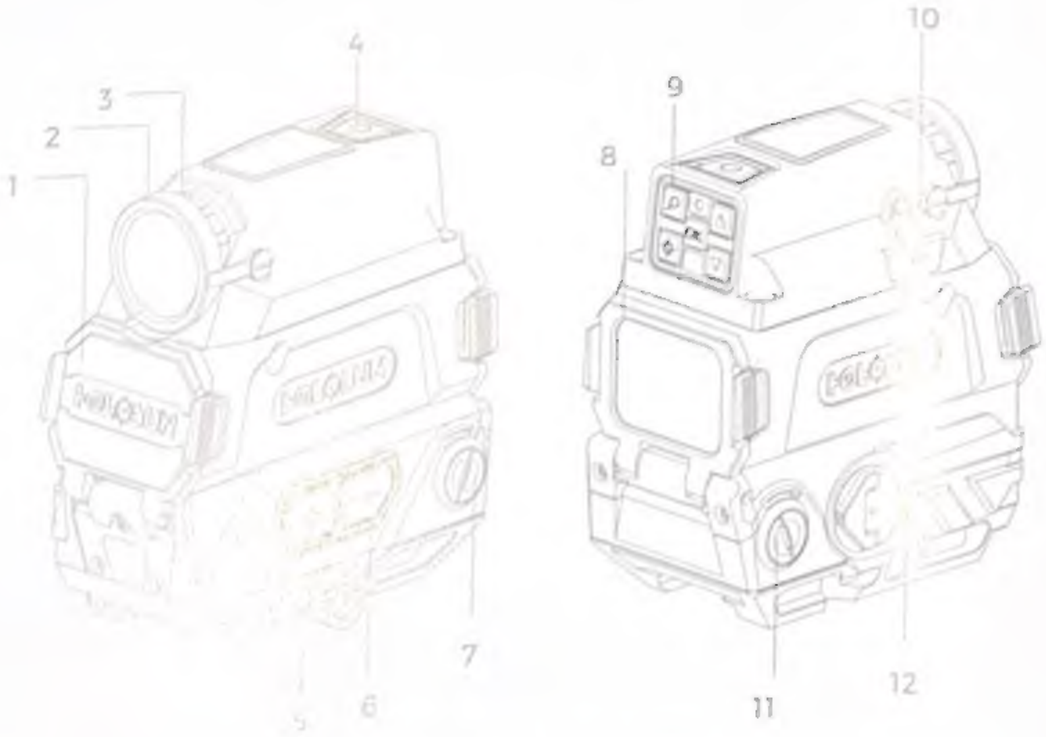


Figure 1. Introduction of components

Table 1. Description of components

NO.	Description	NO.	Description
1	Objective Lens Cover	7	Windage Adjustment for Red Dot Sight
2	Thermal Camera Lens Cover	8	Ocular Lens Cover
3	Thermal Camera Lens	9	Control Buttons for Infrared Camera
4	Thermal Power Button	10	Magnetic Charging Port
5	Picatinny Mount	11	Elevation Adjustment for Red Dot Sight
6	Red Dot Sight Control Buttons	12	Battery Compartment

Features

1. Red dot sight (RDS) integrated with thermal camera.
2. Up to 50FPS refresh rate.
3. Digital magnification: 1x, 3x, 5x.
4. Internal video recording and image capture system.
5. Three RDS reticle options: 2MOA dot, 65MOA circle, 65MOA circle with 2MOA dot.
6. Three digital reticle options.
7. IP67 Certified.
8. Two rechargeable 18350 flat-top batteries.
9. Magnetic USB charging interface.
10. OLED display: 1024*768 pixels.
11. Sensor Resolution: 256*192.
12. 8 day light and 4 night vision compatible RDS brightness settings.
13. Window size: 1.25×0.98 inches.
14. Internal storage capacity: 24GB of available memory

Battery

1. Battery Installation (Figure 2)

1) Lift the paddle of the battery cover and rotate the paddle counterclockwise to open the battery cover.

2) Inspect the battery compartment for dirt, moisture, and corrosion, clean the battery compartment if needed.

3) Inspect the O-ring seal on the battery cap to make sure that it is free of sand and dirt particles and that it has not been damaged.

4) Install the batteries noting to the "-" (negative) mark on the battery cap. Both batteries should be installed with the positive side facing inward and the negative side facing the battery cap.

5) Close the battery cover after installing the batteries. Press the battery cover firmly with your thumb and rotate the paddle clockwise until the battery cover is securely fastened. A detent system locks the battery cover in place.

Note: The DRS-TH includes two 18350 flat-top batteries. You can use the included dedicated USB magnetic cable or a high-quality battery charger to charge the batteries. Check the condition of the batteries frequently and do not use batteries that show signs of damage. Never mix battery brands, types, age, or charge levels.

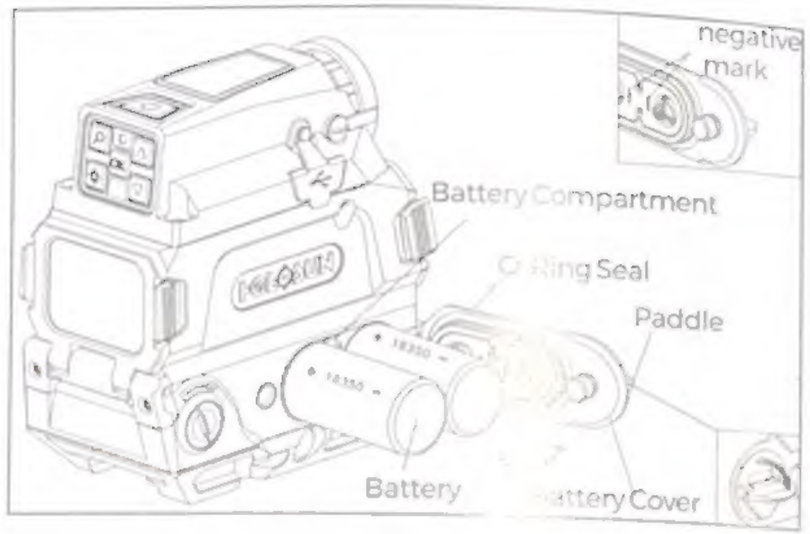


Fig 2

2. Battery Recharging

1) The recharging voltage of the DRS-TH is DC5V, and the required power is above 5V/2A.

2) Connect the USB end of the dedicated USB magnetic cable to an external USB power source, then connect the other end of the cable to the magnetic charging port of the DRS-TH as shown in Figure 3. The magnetic connector will attach in one direction only. If the connector is repelled by the port, rotate the connector 180 degrees.

3) Indicator light

a. Green indicator light flashes when charging.

b. When the battery is fully charged, the green indicator light is constant.

Note: Before charging, ensure the charging port is clean by wiping away any dust or debris.

Fig 3

Product Installation

1. Use the included 11mm tool to loosen the nut by rotating counterclockwise. (See Figure 4)
2. Move the clamping block to a position sufficient to connect the mount to a Picatinny rail.
3. Apply forward pressure to the DRS-TH and then tighten the 11mm mounting nuts to 50-65 INCH/lbs.

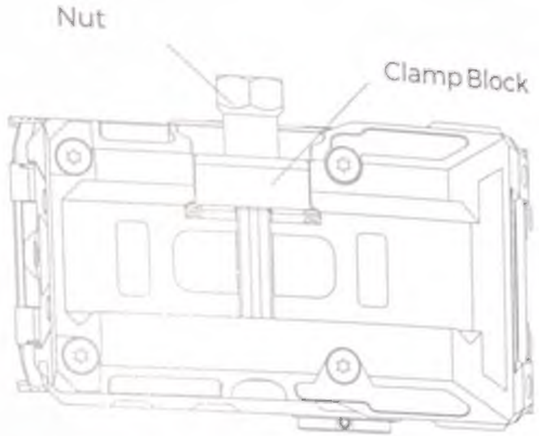


Fig 4

Red Dot Sight Functions

1. Multi-Reticle System

The default reticle of this sight is a 2MOA dot centered in a 65MOA circle with four positioning points. The diameter of the circle reticle represents approximately 65 inches at 100 yards (170cm at 100 meters). Hold the "-" button down 3 seconds to switch between the three reticles. The reticle options will cycle between Circle +Dot, Dot only, and Circle only in that order. (See Figure 5)

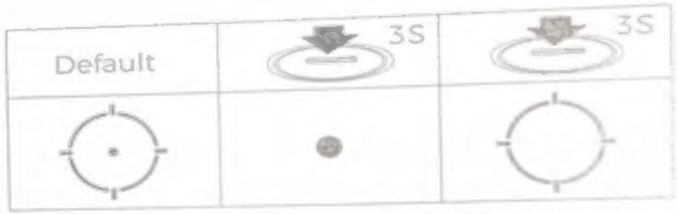


Fig 5

2. Red Dot Sight Operation

The "+" and "-" operation buttons are located on the left side of the DRS-TH.

1) Power ON: Momentarily press either brightness button ("+" or "-") to turn on the red dot sight. (See Figure 6)

2) Power OFF: Press the "+" and "-" buttons simultaneously to turn the red dot sight OFF.

3) Operation mode: Two modes are available in the following order: Manual Mode -> Lockout Mode.

a. Manual Mode:

Brightness adjustment: There are 12 reticle brightness setting levels in manual mode. Settings 1 to 4 are NV compatible and setting 12 is the brightest. Press "+" or "-" to increase or decrease the brightness.

b. Lockout Mode:

Lockout Mode Activation: While in manual mode, hold the "+" button for 3 seconds (until the LED blinks once) to activate lockout mode. In lockout mode, buttons are locked out preventing any setting changes. To deactivate lockout mode, hold the "+" button for 3 seconds (until the LED blinks once) to confirm lockout mode is deactivated and the returns manual mode.

4) Shake Awake - Sleep Timer Setting:

a. Please note that your red dot will automatically enter into sleep mode after 10 minutes of no movement or operation.

b. The sight will instantaneously wake up to the last used settings from any slight motion of the sight.

c. The default sleep timer setting is 10 min but can be adjusted to one of four settings.

i. Press and hold the "+" button for 10 seconds to enter sleep time adjustment mode. At the 10 second mark the reticle will blink indicating what setting is saved. There are 4 options: 10 min, 1h, 12h or the sleep mode is disabled.

ii. Press the "+" or "-" buttons to change the timer setting. The LED will blink (1 = 10 min, 2 = 1h, 3 = 12h, or 4 = disable shake awake).

iii. Press the "+" and "-" buttons simultaneously to save the time setting and power off the sight.

Disabling the sleep timer also disables the Shake Awake function.

Note: The reticle will blink at the 3 second mark for mode changes, continue holding for [illegible] 10 seconds for a second blink to enter the sleep timer adjustment mode.

Memory function: The sight will remember the last saved brightness setting when power is [illegible] and off.

Low battery warning: The reticle image will flash slowly, once a minute, to indicate when to replace the batteries.

Fig 6

Camera Functions

1. Power On

Momentarily press (< 1 second) the power button on top of the DRS-TH ⏻ to activate the thermal camera. You will see the following page. (See Figure 7)

Fig 7

2. Power OFF and Auto OFF

Press and hold the top power button ⏻ for 2 seconds to turn off the thermal camera. While OFF, press and hold the top power button ⏻ for 5 seconds to enter the Auto OFF setting mode. Momentarily press for 1 second to activate or deactivate Auto OFF. When the red indicator light flashes once every two seconds Auto OFF is activated. When the red indicator light flashes three times Auto OFF is deactivated. Press and hold for 5 seconds to exit the Auto OFF activation mode. When Auto OFF is activated, the DRS-TH thermal camera will automatically power OFF if there is no movement for 10 minutes.

When Auto OFF is activated:

1) DRS-TH will not turn off when there is vibration or movement.

2) When there is no vibration or movement, thermal camera will turn off after 10 minutes. To restart, short press (< 1 second) the top power button ⏻ again to turn on the thermal camera.

3. Camera Control Buttons (Figure 8)

Note: All Button and menu settings are automatically saved.

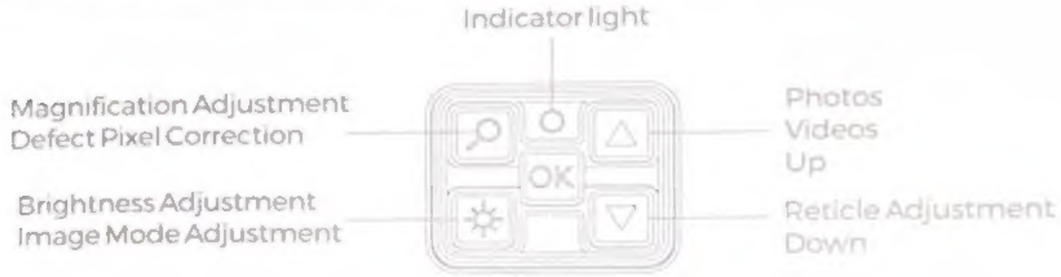


Fig 8

1) Taking Photos or Recording Video

Momentarily press the △ button to take photos. The remaining memory space, represented as

remaining percentage, will be displayed in the lower right corner of the screen.
For example, 10% means there is 10% of storage space remaining. Long press the button to start video recording. When the video is being recorded the blue indicator light is constant and a dot flashes in the lower right corner of the screen. Press and hold again to stop recording and exit camera mode. You can take photos during the video recording process by pressing button momentarily while recording. After taking photos or videos, the percentage of remaining storage space is displayed in the lower right corner of the screen.

2) Digital Reticle Adjustment

Short press the button to adjust the brightness of the digital reticle. Select between off-> black-> low -> high -> off. Press and hold the button once to select from three different reticles. Switch between T-Reticle 1 -> T-Reticle 2 -> Crosshair.

3) Magnification Adjustment or Defect Pixel Correction

To change magnification, Momentarily press the button to cycle between 1x, 3x and 5x. The default magnification is 1X. The magnification power will displayed in the upper right corner of the screen.

To perform defect pixel correction, navigate it to IMG->Set > DPC in the menu. Move the X using the and buttons to the target pixel and then short press the button to remove the current defect pixel. Long press the button to cancel the current defect pixel. See Menu Operation section 3d for more information.

4) Screen Brightness Adjustment or Image Mode Adjustment

Press the button to adjust the screen brightness cycling from setting 1 to setting 6. The current brightness setting number will be displayed in the lower right corner of the screen, for example setting 4 will display as OLEDBri4. The brightness setting value will disappear after 2 seconds. Long press the button for 0.5 seconds to change the image mode between White Hot->Highlight-> Outline->Black Hot. The default image mode is WH mode when first turned on. A corresponding mode abbreviation will confirm the image mode displaying WH, HL, OL or BH in the lower right position of the screen. The image mode display will disappear after 2 seconds.

5) Main Menu Settings

Long press (>1 second) the button to deactivate or activate all symbols in the screen if you prefer a clean display without battery life or other symbols. To enter the main menu, momentarily press the button. While in the main menu screen, if no function is selected the system will exit after 2 seconds.

6) Observation Mode

Observation mode disables photo and video functions which will extend battery life. With the unit OFF, press and hold the button and then simultaneously press & release the power button, continue holding the button until the blue indicator light turns off, then release the button to enter Observation Mode. In this mode photography and video recording cannot be used. An eye symbol will be displayed in the upper right corner of the screen to confirm Observation mode is activated. Power OFF the DRS to exit observation mode.

Menu Operation

Table 2. Description of menu options

First level menu		Secondary menu	
Item	Function	Item	Function
IMG	Image Function	Bri	Image Brightness
		Con	Contrast
		HLI	Highlight Intensity
		OLI	Outline Intensity
Cal	Camera and Zero Functions	Reset	Reset Position
		Pos	Display Image Position
Set	Reset, Formatting, Image Correction	Reset	Restore Factory Settings (except formatting)
		Fmt	Formatting
		FFC	Flat-Field Correction
		DPC	Defect Pixel Correction

1) IMG(Image Function)

Adjust the image display based on changes in ambient lighting (e.g. amount of sunlight t

a. Brightness: press the [*] button to enter the main menu interface (IMG/Image functi

selected by default). Click the [*] button to enter the image setting interface. Bri (Bright

[*] button to set the image bright

between 1 to 6 of image brightness using the [^] [v] buttons to adjust the image bright

After setting is selected, press and hold the [*] button to return

Figure 9)

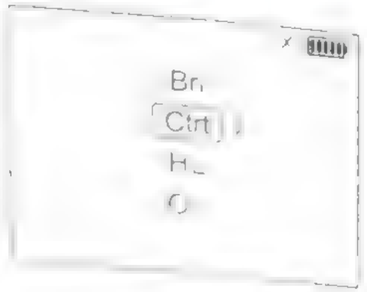
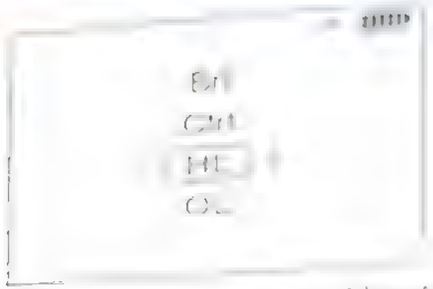


Fig 10

c. Highlight (HL) Inten[illegible] button to enter the HL function
[illegible] buttons to adjust HL intensity
[illegible] button to return to the previous

Note: The settings of HL can only be adjusted in HL (Highlight) mode. You will see a circle with a line if you are not in the HL mode.



d. Outline (OL) Intensity: From the IMG menu, press the [illegible] button to [illegible] the [illegible] button to adjust OL. Press the [^] and [v] buttons to adjust [illegible] selecting your outline (OL) intensity setting. [illegible] and hold [illegible] previous menu. (See Figure 12)

Note: The settings of OL can only be adjusted in OL (Outline) mode. [illegible] are not in the OL mode.

2) Cal (Zero Calibration Function)

The Cal (Calibration) setting is used to set your zero and to adjust the point of impact with your sight picture.

From the main menu interface Press the [illegible] button to enter the Cal setting interface. See Fig 13

Fig 13

c Hig
Click t
to 5 A
menu
Note:
line ify

a Digital Reticle [illegible] can be performed only when the magnification is 1X. Click the [illegible] button to enter the Reti setting [illegible] adjust the horizontal [illegible] between the digital [illegible] point of aim with your point of impact to [illegible]

b) OLED Display Cal

the button to enter

and Y axis. Press the

50-50) parameters to

The reticle and display

setting is completed, press

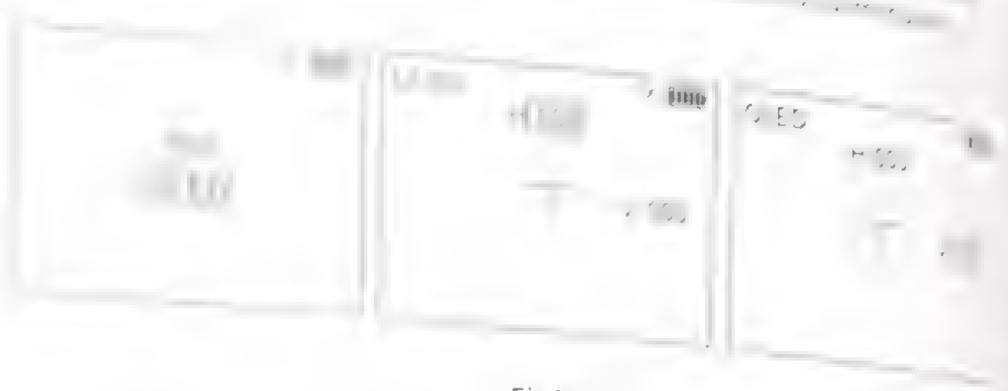


Fig 15

3) Set Function (Settings)

Press the button to enter the main menu

press the button to enter the Set function

button to select Set and

Figure 17)

a. Reset the DRS-TH. From the Set me

buttons to select N or Y. Selecting Y (Ye

and hold the button to return to the

change the settings made to the Cal me

for Reset. Press the and

gs of the DRS-TH. To exit, press

to factory settings will not

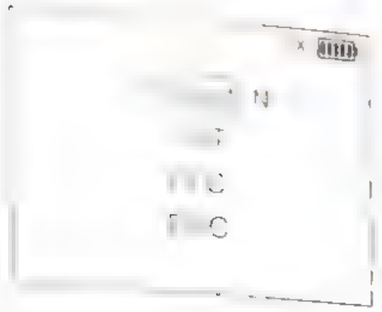


Fig 18

b. Format the DRS-TH Stora[illegible] press the [illegible] button to select FMT(Forma[illegible]
Press the [illegible] button to enter the FMT [illegible] interface Press the △ or ▽ buttons to select N[illegible]
[illegible] format the [illegible] To exit press and hold the ↩ button to retur[illegible]
[illegible] menu. See Figure 19

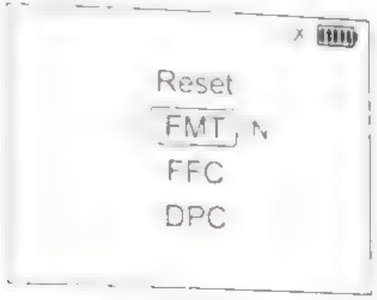


Fig 19

Flat Field Correction From the Set me[illegible]
[illegible]rection[illegible] the [illegible] button to enter
select Auto or Man To exit, press and ho[illegible]
Figure 20)
Auto Automatically perform Flat-Field[illegible]
temperature conditions
Man In addition to the Flat-Field corr[illegible]
can [illegible] performed manually Lon[illegible]
correction

button to select I[illegible]
[illegible]interface Press the [illegible] or [illegible] buttons to
[illegible]return to the previous menu (See

[illegible]nute based on image quality or

[illegible]t turned on, Flat-Field correction
[illegible]r 0 5 seconds to perform Flat Field

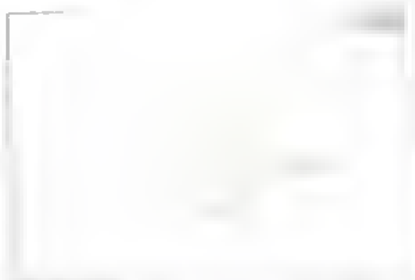


Fig 20

[illegible] Correction M[illegible]
[illegible] DPC Defect F[illegible]
[illegible] press the [illegible] butt[illegible]
[illegible] [illegible]tion adjustment [illegible]e and [illegible] button to adjust the X-axis
direction h[illegible]zontally When in Y-axis adjustment, short press the [illegible] and [illegible] button to

adjust the vertical direction of the X A n the screen to identify the degree of ove [illegible]

[illegible] e defective pixels are [illegible]

[illegible]

[illegible] xer can be eas [illegible] center [illegible] grid graphics [illegible] nt corner of the screen (See Figure 21)

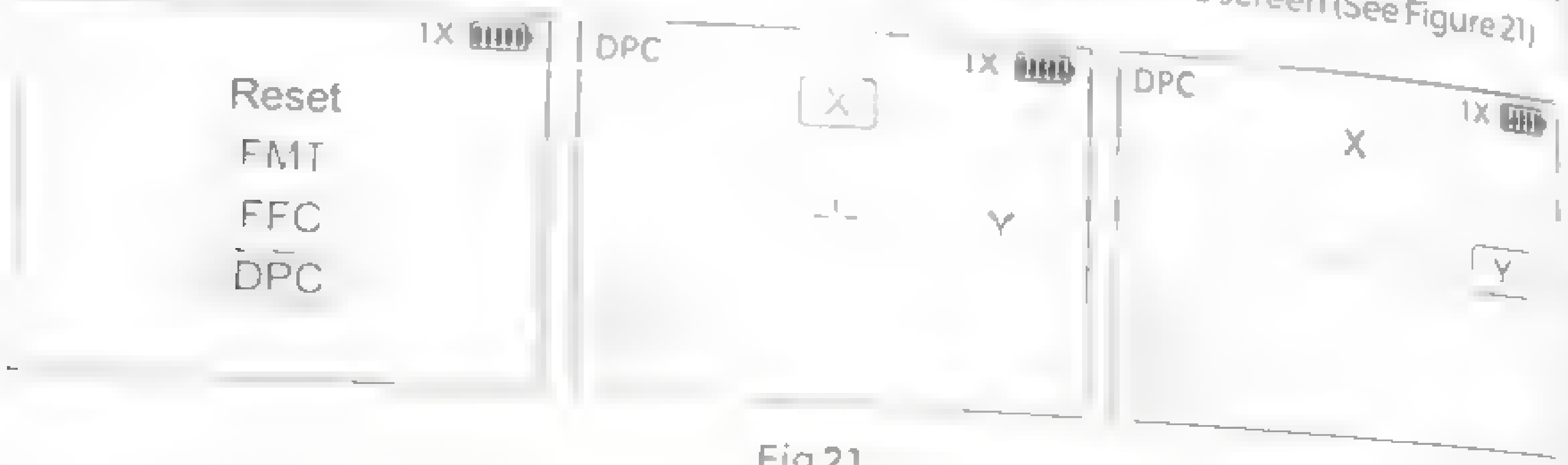


Fig 21

Data Processing

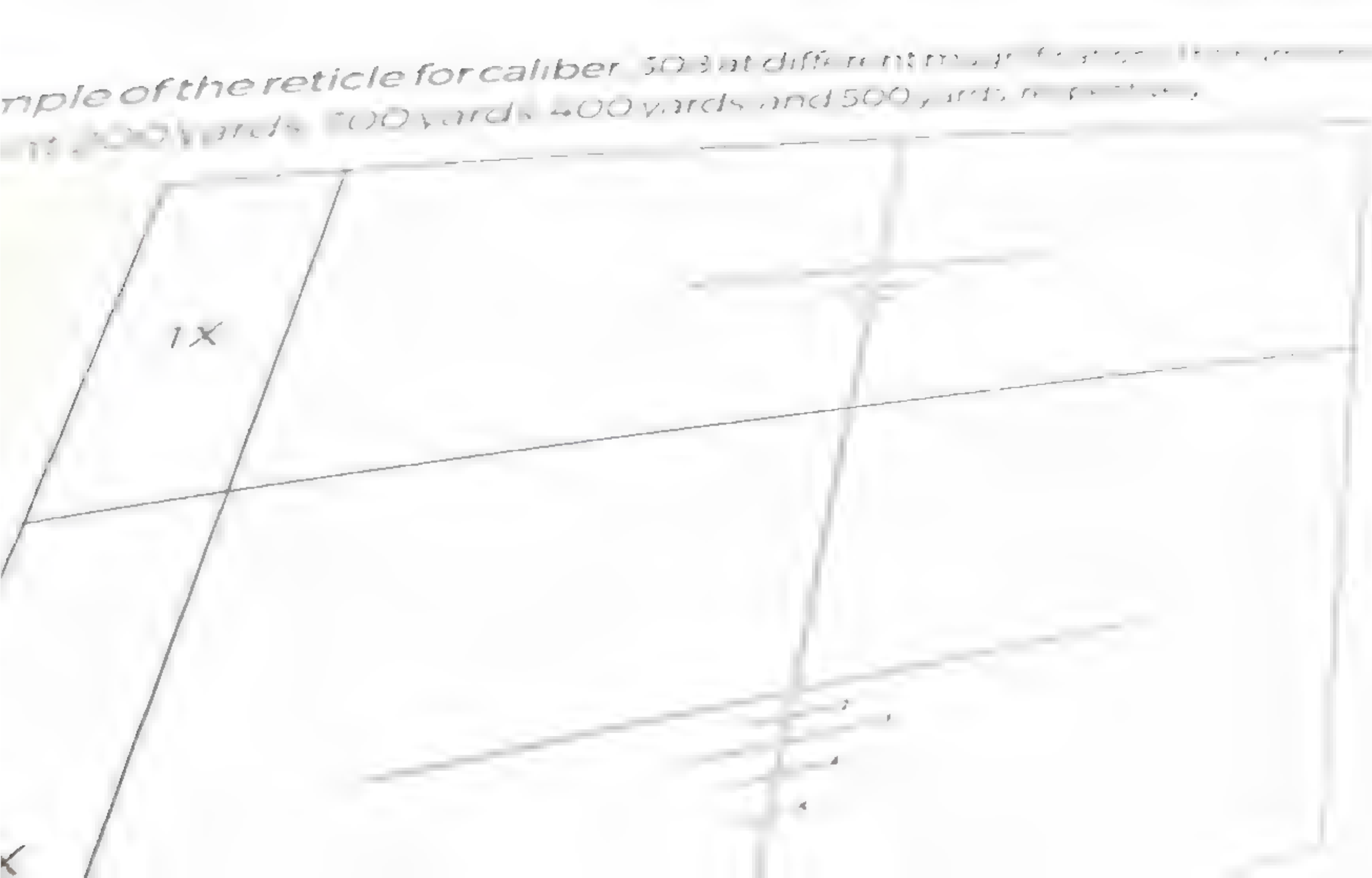
[illegible]

Reticle

[illegible] DRS-TH has three ty [illegible] and two custom reticle input function [illegible] future expansion. Retic [illegible] different scale depending on the magn [illegible] (1x, 3x or 5x). Due the [illegible] zeroing should be performed [illegible] on a 50 yard [illegible] yard zero for 308. The following table [illegible] types of reticles and the [illegible]

1 The T reticle is a unive [illegible] e with references at different MOA depending on the zoom setting. The scale of the [illegible] reticle at different magnifications are shown below. The numbers on the reticle [illegible] MOA, 10MOA, 15MOA, and 20MOA, respectively

nple of the reticle for caliber .30 at different ranges
at 300 yards, 400 yards, and 500 yards.



around 223 caliber at different magnifications. The numbers
resent 200 yards, 300 yards, 400 yards, and 500 yards respectively.

Zero Setting

1. Fusion Calibration: Aligning the red dot and the digital reticle

1) A calibration of the camera image and the actual real life sight picture has been performed at the factory

s using the 1X setting

2. Red Dot Sight and Digital Reticle Zeroing

1) After the fusion calibration is completed, the red dot sight and digital reticle zeroing procedure

2) The red dot sight has been mechanically zeroed at the factory to approximately 25 meters

3) The Elevation adjustment is located on the top side of the housing and the windage adjustment is located on the left side of the housing. Adjustments can be made using the included tools. (See Figure 22)

4) The red dot sight Windage & Elevation adjustments have a 0.5 MOA click value. Each adjustment click has a value of approximately 0.5 MOA or 1/2 inch at 100 yards (1/4" at 50y, 1/8" at 25y). When zeroing at 50 yards if the point of impact is 2 inches low and 1 inch right you will need to adjust Elevation 8 clicks UP(clockwise) and windage 4 clicks LEFT(counterclockwise)

+50MOA

After zeroing the red dot sight, you can adjust the

turn off the red dot. Lastly, adjust and confirm

calibration function (Menu > Cal > Reti). In the dig

button to sel between the X and Y axis and then use the

the point of aim u matches the point of impact. When finis

to back out of the

you feel the windage or elevation adjustments can

may have reache mechanical limit of the adjustment turret

an be further if behind or you may cause damage. If you

please cont or hold sun for ass

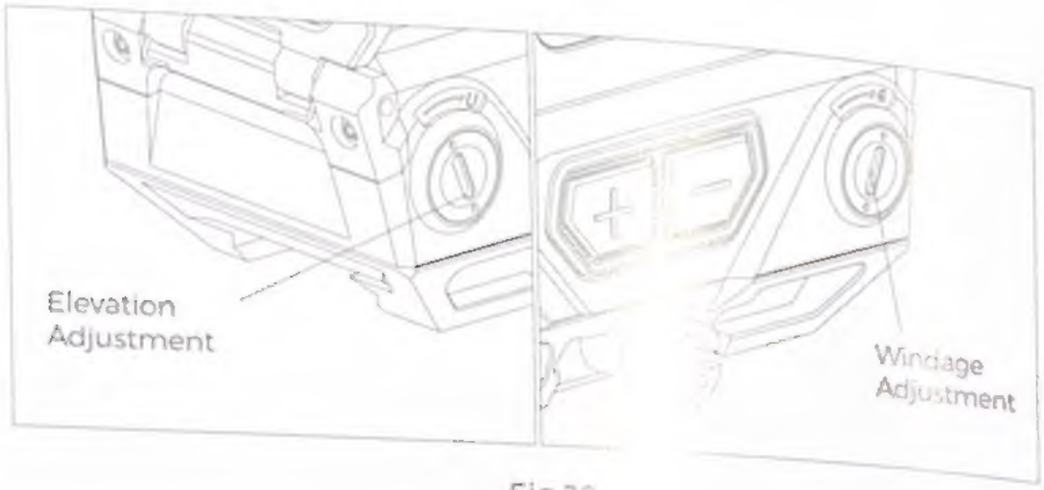


Fig 22

Lens Cover

1. The DRS-TH includes lens covers for the red dot sight objective lens (solid), ocular lens (transparent), and thermal camera lens (rubber). When the solid lens cover of the objective lens is closed, the thermal camera function of the DRS-TH will not be affected and may enhance contrast in certain lighting conditions.
2. To open the front and rear lens covers of the red dot sight, press the latches on both sides of the lens covers inward and the lens covers open. (See Figure 23)

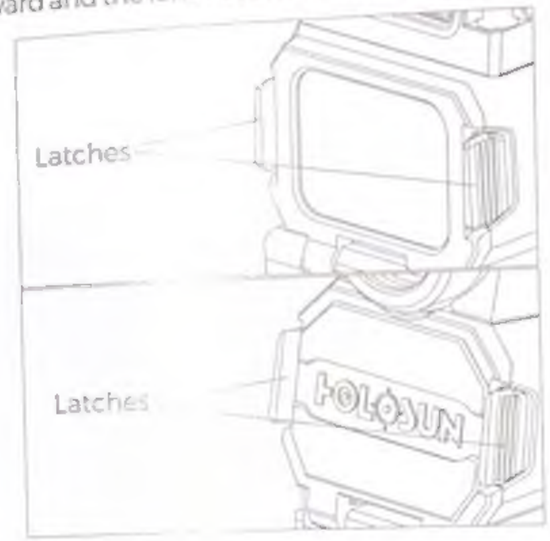


Fig 23

Included Tools

1. T10 Torx tool with flat driver to adjust windage & elevation. (See Figure 24)
2. 11mm Hex Wrench.

Fig 24

Maintenance & Care

1. Cleaning and Maintenance

1) This device is a precision instrument that deserves reasonably cautious care. The following tips are provided to ensure a long product life. The optical lenses are multicoated optical glass. When cleaning the lenses, blow away dust on the surface, wet the lens with lens cleaner or clean water, then wipe away smudges with lens tissue, soft cotton, or a microfiber cloth. Avoid touching the glass surface with dry cloth or tissue paper. Do not use organic solvents such as alcohol or acetone. No special maintenance is needed for the housing surface. Do not try to dismantle the device as the internal parts are specially cleaned and sealed and with an anti-fog treatment. Any such attempt will void the warranty

2) if there is a shutdown phenomenon during use, please check whether the surface of the gold-plated parts in the battery compartment is contaminated.

2. Software Upgrade

From time-to-time, Holosun will provide downloadable firmware updates. Visit holosun.com for the latest information on DRS updates. Download the upgrade file package to your computer and connect the device to your computer using the included magnetic USB cable. After the device is turned on, copy the upgrade file to the storage root directory of the device (the upgrade file name must be ars31.img) and then shut down the device. Hold the top right button without [illegible] and then press the power button to

perform a software upgrade. The blue indicator light flashes during t[illegible]oftware upgrade. After the flashing is ends, the upgrade is complete.

Limited Warranty

Holosun DRS models include a limited lifetime warranty on parts and [illegible]kmanship to the original purchaser. The lifetime warranty is limited to the housing and [illegible]cal systems. Holosun provides a 3-year warranty from the date of original retail purchase for [illegible]tronic components. At our sole discretion, we will repair or replace products found to be de[illegible]ive under normal use without charge, excluding any delivery costs, which will be assumed by the purchaser. We will not be liable for incidental, consequential, or special damages arising out of or in any connection with the use or performance of this product. This warranty is void if the product has been misused, modified, neglected, or disassembled prior to its return. Please refer to [illegible] for current and complete warranty information and other conditions.

[illegible]tion about Holosun, our Terms of Use and Sale, and our Privacy Policy, please [illegible]

HOLOSUN

Holosun Technologies Inc.

Phone: 909-594-2885
Fax: (909) 598-4822
Email: warranty@holosun.com

WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

Ver: A1